REMARKS

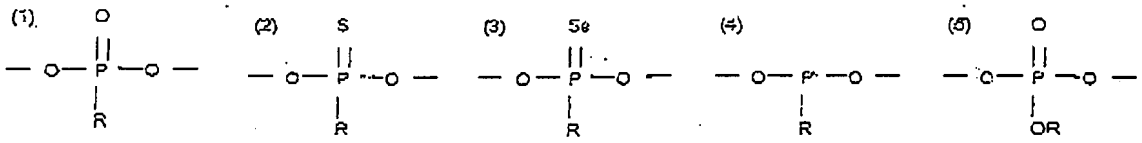
Prior to discussing the rejections of the claims, applicants note that the Office has still not responded properly to the traversal of the election of species (lack of unity) requirement. In the present Action, the Office acknowledges the traversal and indicates that if the claims of group (I) are in condition for allowance, then the search will be expanded to non-elected species.

That the Office has applied election of species, and not a restriction requirement, under lack of unity of invention does not relieve it of its burden of responding to the traversal of the requirement. MPEP §821.01 requires that if a requirement is traversed, it should be reconsidered by the Office. If the requirement is still deemed to be proper, then the Office should repeat the requirement and reply to the reasons and arguments advanced by applicant in the traverse. An indication that the search will be expanded to non-elected species does not amount to a reconsideration of the requirement.

Notwithstanding that the Office has not properly responded to the traversal, applicants again assert that the election of species requirement is improper because unity of invention is present in the claims of the present application. As explained in the papers filed December 27, 2006, and February 23, 2007:

"Applicants respectfully submit that the Office has not properly applied unity of invention practice. Species (1) to (5) are recited in claim 1 as a Markush group. According to Annex B of the Administrative Instructions under the PCT, in the case of Markush groupings, unity of invention exists when the alternatives are of a similar nature. In the case of chemical compounds, a similar nature is present when all alternatives have a common property and a common structure is present, i.e., a significant structural element is shared by all of the alternatives, or all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains. Furthermore, the fact that the alternatives of a Markush grouping can be differently classified shall not, taken alone, be considered to be justification for a finding of a lack of unity of invention. The Office's position that the compounds of species (1) to (5) differ in chemical structures and requires a different search does not show lack of unity of invention in the present application. The Office must show that the compounds lack a common property and a common structural element.

Notwithstanding the impropriety of the Office's position, applicants also submit that species (1) to (5) share a significant structural element. The structure common to the species is a phosphorous atom and bicycloalkyl structure, as illustrated below:



(wherein R contains a bicycloalkyl structure). Additionally, O, S and Se belong to the same group in the periodic table and have similar chemical properties (e.g., an optically low dispersability and a high refractive index).

The Office has also failed to show lack of unity of invention regarding species (6) and (7). Species (6) is recited in claim 2, which recites a dependency on claim 1. Species (7) is recited in claim 3, which recites a dependency on claim 2. Annex B of the Administrative Instructions under the PCT provides that unity of invention has to be considered in the first place only in relation to the independent claims in an international application and not the dependent claims. I.e., unity of invention is presumed to exist between an independent claim and all claims dependent thereon. Consideration of unity of invention between an independent and dependent claim is in order only if an independent claim does not avoid the prior art. The Office has not properly shown lack of unity of invention regarding species (6) and (7) since the Office has not shown how claim 1, upon which the claims reciting species (6) and (7) ultimately depend, fails to avoid the prior art."

For the above reasons, removal of the election of species requirement is in order and is again respectfully requested.

Applicants also request that claim 2 be reinstated in the application. Claim 2 also reads on the elected species, when X represents oxygen.

Claim 2 has been amended, i.e., rewritten, in independent form.

Claim 9 has been amended to clarify that the value of 1.58 or more refers to the d line refractive index (nd) of the resin and that the recited formula is calculated with respect to the Abbe number (νd) and d line refractive index (nd).

Claims 1 and 8 to 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over EP 1 270 646 (hereinafter: "EP '646").

The Office cites EP '646 as disclosing a resin composition comprising a phosphorous-containing residue and a dihydric phenol residue having a formula identical to the formula of claim 1 of the present application and the claimed Abbe number. The Office states that EP '646 does not disclose a residue having a bicycloalkyl structure nor the characteristics recited in claims 8 and 9 of the present application. However, the Office states that "the reference does disclose the claimed residues of phosphonic acid in that a bicycloalkyl structure is included." (page 3, lines 1 to 2

of the Action). The Office further states that the characteristics of claims 8 and 9 are inherent in the residue of EP '646.

Applicants understand the positions of the Office to be that, first, the definition in EP '646 of the phosphonic residue as including an organic group is broad enough to include a phosphonic acid residue having a bicycloalkyl structure, i.e., bicycloalkyl group, and, second, that the specific selection of a bicycloalkyl group as the organic group of EP '646 would be expected to provide a resin having similar properties to that of EP '646. These positions are both improper.

First, a disclosure of an organic group (genus) is not a disclosure of a specific organic group (species) and cannot properly support anticipation under 35 U.S.C. § 102. As noted by the United States Court of Appeals for the Federal Circuit in *Impax Laboratories Inc. v. Aventis Pharmaceuticals Inc.*, 81 USPQ2d 1001, 1013 (Fed. Cir. 2006):

> "When a reference discloses a class of compounds, i.e., a genus, a person of ordinary skill in the art should be able to 'at once envisage each member of th[e] ... class' for the individual compounds, i.e., species, to be enabled. *In re Petering*, 301 F.2d 676, 681 [133 USPQ 275] (C.C.P.A. 1962). If the members cannot be envisioned,

the reference does not disclose the species and the reference is not enabling."

In the present case, a person of ordinary skill in the art cannot at once envision a bicycloalkyl group from the disclosure of an "organic group" or from the examples of organic groups in the paragraph bridging pages 5 and 6 in EP '646. The Office's statement at the bottom of page 2 of the Action that the reference does not disclose a bicycloalkyl structure itself supports a conclusion that EP '646 does not anticipate the claims of the present application under 35 U.S.C. § 102. Therefore, the 35 U.S.C. 102(b) rejection based on EP '646 must fail.

Second, there is nothing in EP '646 to direct a person of ordinary skill in the art to the selection of a bicycloalkyl group as the organic group of the phosphonic acid residue because there is no basis in EP '646 or other prior art to support a reasonable expectation of similar properties for the use of a bicycloalkyl group in EP '646. For this reason alone, the 35 U.S.C. § 103(a) rejection is improper.

Moreover, as described on page 3, lines 16 to 19, of the specification of the present application, the object of the present invention is to provide a transparent resin having both a high refractive index and an optically low dispersion. Herein,

optically low dispersion is the same as having a high Abbe number. In other words, the object of the present invention is to provide a transparent resin having a high refractive index and a high Abbe number. However, as described in the last paragraph of page 21 of the specification, there is usually a negative correlation between Abbe number and refractive index, so that it is difficult to obtain a simultaneous improvement of both properties.

Additionally, as described in the paragraph bridging pages 5 to 6 of the specification, compounds having a group such as benzene or naphthalene ring have a high refractive index but a low Abbe number. Applicants found that a bicycloalkyl structure is effective for exhibiting an unexpectedly high refractive index and a high Abbe number for the reason, it is believed, it contains a large number of SP3 carbons in a small space. Therefore, the resin of the present application has a high Abbe number while maintaining a refractive index equal to, or higher than, that of conventional polycarbonate.

The resins in EP '646 correspond to the resins of the Comparative Examples of the specification of the present application, which do not include a phosphorus-containing residue having a bicycloalkyl structure. As described in the last paragraph of page 33 of the specification: "[a]s can be seen from

Comparative Examples 1 to 3, the highly refractive, thermoplastic resins such as conventional polyphosphate resin or modified polycarbonate resin have an Abbe number of less than 32 or a refractive index of less than 1.58, and are unsatisfactory for optical uses, particularly in eyeglass lenses. On the other hand, it appears that the resins in Examples 1 to 16 are excellent thermoplastic optical resins having both high Abbe number and high refractive index."

The descriptions and data in the present application demonstrate unexpected properties of the resin of the present invention and rebut any *prima facie* obviousness considered by the Office to be supported by EP '646. For this reason also the 35 U.S.C. § 103(a) rejection is improper.

Removal of the 35 U.S.C. 102(b) and 103(a) rejections of the claims is in order and is respectfully requested.

Claims 1 and 8 to 12 are rejected on the ground of nonstatutory obviousness-type double patenting ("ODP") as being unpatentable over claims 1 and 3 to 5 of U.S. Patent No. 6,750,313 (hereinafter" "US '313). US '313 is the corresponding U.S. publication of EP '646. The position of the Office is that the claims of US '313 and the claims of the present application differ

only in that the equations of the present claims are not disclosed in the claims of US '313.

Applicants respectfully traverse the ODP rejection on the basis that claims 1 and 8 to 12 of the present application are patentably distinct from and unobvious over claims 1 and 3 to 5 of US '313. Claims 1 and 3 to 5 of US '313 do not recite a phosphorus-containing residue having a bicycloalkyl structure. Therefore, the Office's position that the claims differ only in the equations recited in the claims of the present application is incorrect. Furthermore, as noted in the remarks regarding EP '646, a biclycolalkyl structure is not disclosed or suggested in the reference.

Removal of the ODP rejections of the claims is also believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated March 23, 2007, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

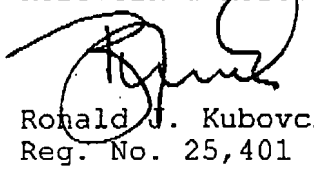
In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of

time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

KUBOVCIK & KUBOVCIK



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